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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,398	03/18/2002	Sandeep Gupta	Q67551	3134

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EXAMINER

LIU, HONG

ART UNIT PAPER NUMBER

1624

DATE MAILED: 10/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/980,398

Applicant(s)

GUPTA ET AL.

Examiner

Hong Liu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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***DETAILED ACTION***

***Election/Restriction***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-12, drawn to the compounds, composition, and methods of use of formula I wherein the core contains 1,4-oxazine and 1,4-thiazine as one of the cyclos shown in claim 2 as I-1 and I-2, classified in class 544, subclass 101<sup>+</sup>.
- II. Claims 1-12, drawn to the compound of formula I, composition, and methods of use wherein the core contains 1,4-diazine as one of the cyclos shown in claim 2 as I-3 and I-4, classified in class 544, subclass 336<sup>+</sup>.
- III. Claims 1-12, drawn to the compounds of formula I, composition and methods of use wherein the core contains six membered ring with one or two nitrogens and five membered hetero rings as one of the cyclos shown in claim 2 as I-5 through I-11, classified in class 544, subclass 346<sup>+</sup>.
- IV. Claims 1-11, drawn to the compounds of formula I, composition, and methods of use wherein the compounds are other than these defined in Groups I-III, classified depending on the nature of the variables A, B, E, A', and D.

The inventions are distinct, each from the other because of the following reasons:

Groups I-IV are directed to structurally dissimilar compounds such that the variable core created by varying the definitions of the formula do not belong to a recognized class of chemical compounds in the art, i.e. tricyclic ring with 1,4-oxazine as one of its cyclos, tricyclic ring with

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1,4-oxazine as one of its cyclos, and tricyclic ring with 1,4 diazine, pyridine, and five membered ring as one of its cyclos. References anticipating one invention would not render obvious the others. Thus, separate searches in the literature as well as in the U.S. Patent Clarification System would be required. The compounds also differ significantly in chemical structures. One skilled in the art would not consider such diverse structures as functional equivalents of each other. The mere fact that there is a single similarity is not in itself a significant reason to render the whole embodiment obvious.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

1. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.
2. During a telephone conversation with Mr. Louis Gubinsky on 09/30/03 a provisional election was made to prosecute the invention of Group I, claims 1-12. Affirmation of this election must be made by applicant in replying to this Office action. Claim withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

Claims 1-3 are objected to as being an improper Markush grouping. The recited compounds, while possessing a common utility, present a variable core and, thus, the Markush groups represented by the term wherein the cyclo structure shown as 1-1 and structures of 1-2 through 1-11 have variably different definitions, render the claims clearly improper.

Deletion of non-elected subject matter would overcome this rejection.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The use of "heteroaryl", "heteroaryloxy", "heteroarylcarbonyl", "heteroaryloxycarbonyl", "heteroarylaminocarbonyl" and "heterocycloalkyl" in the definition of R variables is unclear to the size of the rings although the hetero atoms and the saturation of the

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ring are defined on page 4. See *In re Wiggins* 179 USPQ 421 for certain terminology regarding heterocyclic ring systems.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-12 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for preparation and use of compounds wherein the core is pyrazino[1,2,3-de]-1,4-benzoxazine or pyrazino[1,2,3-de]-1,4-benzothiazine, does not reasonably provide enablement for preparation and use of compounds wherein A' is other than carbon and B and D are other than nitrogen. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

The claims are not commensurate in scope as to the possibilities for the substituent -L-X which can be a combination of two sulfur, nitrogen or carbon atoms n is 0-2 and B is N, C and E can be a bond, O, S, S(O), NH, C(S)-, etc. The nature of the invention in the instant application has claims which embrace a diversity of chemically and physically distinct compounds, wherein R1 is hydrogen, alkyl, haloalkyl, alkenyl, alkynyl, amino, alkoxyalkyl, acetyl, R6 and R7 are hydrogen, halogen, hydroxy, haloalkoxy, an unsubstituted or substituted, single or fused, aromatic or an unsubstituted or substituted, fused or single, heteroaromatic group, containing one or more heteroatoms; and R represents hydrogen, alkyl, alkenyl, an unsubstituted or substituted,


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fused or single, heteroaromatic, etc. While a number of compounds are disclosed, there is insufficient guidance for preparing additional herbicides which would be effective since the cited examples are drawn to a homogenous group of compounds not remotely commensurate in scope to applicants' claims. Only compounds wherein R is hydrogen or methyl, R6 and R7 are hydrogens or methyl and the core is pyrazino[1,2,3-de]-1,4-benzoxazine or pyrazino[1,2,3-de]-1,4-benzothiazine have been made.


Furthermore, the specification fails to enable one skilled in the art to use the claimed compounds. The use disclosed in the specification is as herbicidal agents. Testing procedures and results are provided in pages 23 and 24. However, only a limited number of compounds have been tested for activity. The tested compounds are not considered to be representative of all the possible compounds encompassed by the claims. The tested compounds are structurally very different from the compounds of the instant claims such that no reasonable extrapolation could be made by one skilled in the art regarding the activity of the instantly claimed compounds. Note *In re Surrey*, 151 USPQ 724 regarding sufficiency of disclosure for a Markush group. In view of the breadth of the claims, the chemical nature of the invention, and the lack of working example regarding the activity of the other heterocyclic and non-heterocyclic groups encompassed by the generic definition of the instant claims, it would take an undue amount of experimentation for one skilled in the art to use the claimed compounds as herbicides.

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Any inquiry concerning this communication should be directed to Examiner Hong Liu whose telephone number is (703) 306-5814. If attempts to reach the examiner by the phone are unsuccessful, the examiner's supervisor, Mukund Shah can be reached at (703) 308-4716. The fax phone number for this group is (703) 308-4734 for "unofficial" purposes and the actual number for **official** business is (703) 308-4556. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose number is (703) 308-1235.

  
JOHN M. FORD  
PRIMARY EXAMINER  
GROUP - ART UNIT 1624

Hong Liu  
October 3, 2003

  
**Mukund Shah**  
Supervisory Patent Examiner  
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